

Most Frequently Occurring Classifications of Patents Returned  
From A Search of 10/709,719 on September 22, 2005

Combined Classifications

18 257/E27.096	2 365/149
14 257/E21.652	2 438/152
12 257/296	2 438/155
12 257/E27.091	2 438/207
11 257/301	2 438/246
11 257/302	2 438/249
9 438/242	2 438/257
7 257/303	2 438/299
7 257/306	2 438/300
7 257/E21.648	2 438/386
7 257/E21.651	2 438/387
7 257/E27.103	2 438/388
7 438/243	2 438/427
6 257/E21.655	
6 257/E27.089	
6 438/244	
6 438/270	
5 257/304	
5 257/330	
5 257/E21.693	
5 257/E27.086	
5 438/253	
4 257/E27.092	
4 257/E27.112	
4 257/E29.346	
4 438/248	
4 438/396	
3 257/E21.659	
3 257/E29.262	
3 438/255	
3 438/268	
3 438/269	
3 438/294	
3 438/392	
3 438/398	
2 257/305	
2 257/309	
2 257/311	
2 257/318	
2 257/329	
2 257/332	
2 257/E21.646	
2 257/E21.657	
2 257/E21.68	
2 257/E27.094	
2 257/E27.097	
2 257/E29.129	
2 257/E29.274	
2 257/E29.304	
2 257/E29.343	

- 12 257/296 (7 OR, 5 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
257/288 .Having insulated electrode (e.g., MOSFET, MOS  
diode)  
257/296 ..Insulated gate capacitor or insulated gate  
transistor combined with capacitor (e.g., dynamic memory  
cell)
- 11 257/301 (5 OR, 6 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
257/288 .Having insulated electrode (e.g., MOSFET, MOS  
diode)  
257/296 ..Insulated gate capacitor or insulated gate  
transistor combined with capacitor (e.g., dynamic memory  
cell)  
257/301 ...Capacitor in trench
- 11 257/302 (5 OR, 6 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
257/288 .Having insulated electrode (e.g., MOSFET, MOS  
diode)  
257/296 ..Insulated gate capacitor or insulated gate  
transistor combined with capacitor (e.g., dynamic memory  
cell)  
257/301 ...Capacitor in trench  
257/302 ....Vertical transistor
- 9 438/242 (2 OR, 7 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS  
438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION  
OR ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS  
438/197 .Having insulated gate (e.g., IGFET, MISFET,  
MOSFET, etc.)  
438/238 ..Including passive device (e.g., resistor,  
capacitor, etc.)  
438/239 ...Capacitor  
438/241 ....And additional field effect transistor  
(e.g., sense or access transistor, etc.)  
438/242 .....Including transistor formed on trench  
sidewalls
- 7 257/303 (1 OR, 6 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
257/264 ...Enhancement mode or with high resistivity  
channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)  
257/288 .Having insulated electrode (e.g., MOSFET, MOS  
diode)

- 257/296      ..Insulated gate capacitor or insulated gate transistor combined with capacitor (e.g., dynamic memory cell)
- 257/301      ...Capacitor in trench
- 257/303      ....Stacked capacitor
- 7 257/306    (1 OR, 6 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES
- 257/264      ...Enhancement mode or with high resistivity channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)
- 257/288      ..Having insulated electrode (e.g., MOSFET, MOS diode)
- 257/296      ..Insulated gate capacitor or insulated gate transistor combined with capacitor (e.g., dynamic memory cell)
- 257/306      ...Stacked capacitor
- 7 438/243    (2 OR, 5 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
- 438/142      MAKING FIELD EFFECT DEVICE HAVING PAIR OF ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION
- OR            ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS
- 438/197      ..Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)
- 438/238      ..Including passive device (e.g., resistor, capacitor, etc.)
- 438/239      ...Capacitor
- 438/243      ....Trench capacitor
- 6 257/E21.655 (0 OR, 6 XR)  
Class 257 : ACTIVE SOLID-STATE DEVICES  
Could not find subclass title.
- 6 438/244    (2 OR, 4 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
- 438/142      MAKING FIELD EFFECT DEVICE HAVING PAIR OF ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION
- OR            ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS
- 438/197      ..Having insulated gate (e.g., IGFET, MISFET, MOSFET, etc.)
- 438/238      ..Including passive device (e.g., resistor, capacitor, etc.)
- 438/239      ...Capacitor
- 438/243      ....Trench capacitor
- 438/244      .....Utilizing stacked capacitor structure (e.g., stacked trench, buried stacked capacitor, etc.)
- 6 438/270    (3 OR, 3 XR)  
Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS
- 438/142      MAKING FIELD EFFECT DEVICE HAVING PAIR OF

ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION  
OR ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197      .Having insulated gate (e.g., IGFET, MISFET,  
                  MOSFET, etc.)

438/268      ..Vertical channel

438/270      ...Gate electrode in trench or recess in  
                  semiconductor substrate

5 257/304      (0 OR, 5 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264      ...Enhancement mode or with high resistivity  
                  channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)

257/288      .Having insulated electrode (e.g., MOSFET, MOS  
                  diode)

257/296      ..Insulated gate capacitor or insulated gate  
                  transistor combined with capacitor (e.g., dynamic memory  
                  cell)

257/301      ...Capacitor in trench

257/304      ....Storage node isolated by dielectric from  
                  semiconductor substrate

5 257/330      (1 OR, 4 XR)

Class 257 : ACTIVE SOLID-STATE DEVICES

257/264      ...Enhancement mode or with high resistivity  
                  channel (e.g., doping of  $10^{15}$  cm<sup>-3</sup> or less)

257/288      .Having insulated electrode (e.g., MOSFET, MOS  
                  diode)

257/327      ..Short channel insulated gate field effect  
                  transistor

257/329      ...Gate controls vertical charge flow portion  
                  of channel (e.g., VMOS device)

257/330      ....Gate electrode in groove

5 438/253      (4 OR, 1 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142      MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
                  ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY FORMATION

OR

ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS

438/197      .Having insulated gate (e.g., IGFET, MISFET,  
                  MOSFET, etc.)

438/238      ..Including passive device (e.g., resistor,  
                  capacitor, etc.)

438/239      ...Capacitor

438/253      ....Stacked capacitor

PLUS Search Results for S/N 10/709,719, Searched September 22, 2005 (Top 50)

The Patent Linguistics Utility System (PLUS) is a USPTO automated search system for U.S. Patents from 1971 to the present. PLUS is a query-by-example search system which produces a list of patents that are most closely related linguistically to the application searched. This search was prepared by the staff of the Scientific and Technical Information Center, SIRA.

6316309	5874760	5909044	5950084	5350708
4974060	5990509	6204112	5929477	4797373
5429978	6033957	5460994	6077745	5627092
5594682	5828094	5547889	6114725	5744390
5001526	5952039	5574299	6440801	5783848
6013548	6040210	5177576	5198383	5913129
6034389	5888864	5571730	5252845	4833516
6137128	6737316	5612559	6251726	5945704
5874334	6426252	5874757	6479852	6018174
5663093	6566177	5942777	5250830	6355529